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(54) RESIST MATERIAL AND PHOTORESISTIVE RESIN COMPOSITION

(57)Abstract:

PURPOSE: To obtain the resist material of an alkaline development type having a high glass transition temp. and excellent O₂ RIE resistance by incorporating an oxysilane ring into a part or the whole of a multifunctional alkoxy silane.

CONSTITUTION: The oxysilane ring is incorporated into a part or the whole of the multifunctional alkoxy silane. Namely, the siloxane bond is first made into skeleton structure in order to solve the problem that the resist does not contain a silicon component and is, therefore, poor in the O₂ RIE resistance, by which the Q₂ RIE resistance is enhanced. The glass transition temp. is increased by adopting the chemical structure of a ladder type by the use of the multifunctional alkoxy silane as a raw material. The oxysilane ring is introduced and the alkaline solubility is enhanced by the hydroxyl group subjected to the ring opening thereof. The multifunctional alkoxy silane having the oxysilane ring to be used is exemplified by 3-glycidoxy propyl methoxysilane, etc. The non-swelling negative type resist which has high oxygen plasma resistance and allows alkaline development is obtd. in this way.

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